

Remarks

Claims 1-21 are currently pending in the present application. Claims 7 and 17 have been withdrawn from consideration. Independent Claims 1, 8, and 10 have been amended. Support for these amendments may be found, for example, at paragraph [0032] of the specification. The Examiner is thanked for indicating that Claims 4 and 14 are allowed. In view of the same, new Claims 22 and 23 have been added and include subject matter of Claims 4 and 14, respectively. The Applicants submit that no new subject matter has been added.

Claims rejected under 35 U.S.C. §102/103

The Applicants acknowledge the rejection of Claims 1, 3, 5, 8, 10, 11, 15, and 18-19 under 35 U.S.C. §§102, 103 as being unpatentable over U.S. Publication No. 2003/0001668 to Mruz et al. ("Mruz"). In view of the foregoing amendments, the Applicants respectfully submit that these Claims are fully patentable, as further explained below.

Claim 1, as amended, is directed to a method for processing an electromagnetic input signal via a plurality of modifying segments, wherein the segments collectively combine to provide a plurality of modifying states. The segments, and hence the modifying states, are controlled by a control signal which is generated from a characteristic of the input signal. In order to avoid a shift in input impedance resulting from a change in state, a reference input impedance is determined, and then the actual input impedance is adaptively adjusted toward the reference impedance. (emphasis added).

Mruz, in sharp contrast, is directed to a power divider/combiner for dividing an RF signal into a number of output ports. (see Abstract of Mruz). Mruz also describes a mechanical impedance matching mechanism for providing impedance matching for the power divider according the number of output ports. The impedance mechanism, the divider/combiner, and the

output ports are all controlled by independent logic signals, which cause driving currents to be supplied to the various components of the Mruz system.

In operation, a case control logic 76 provides logic signals to drivers 60, which in turn provide current to a divider /combiner 32, 32' (see Fig. 8). In this manner, the case control logic 76 controls which amplifiers are activated, and accordingly sets the conditions of the driver/combiner 32, 32'. (see paragraph [0030] of Mruz). Unlike Claim 1 of the present application, however, the logic control signals of Mruz are not generated from a characteristic of an input signal. Instead, they are generated independently, in a case control logic 76, either in response to a pre-selected number of amplifiers desired in the system, or in response to a failed amplifier 16. (see paragraphs [0030]-[0031] of Mruz).

Furthermore, Mruz fails to disclose adaptive impedance adjusting towards a reference impedance. As noted above, Claim 1 of the present application recite adaptive impedance matching by first determining a reference impedance, and then adaptively adjusting the impedance toward the reference impedance. Mruz, in sharp contract, describes an impedance network whose activation is solely dependent upon the number of outputs ports connected to the impedance network. Mruz does not determine a reference impedance and then adjust towards the reference impedance. Instead, Mruz provides impedance matching via a plurality of switchable stub reeds (37, 38, 39) located at selected distances along a slab transmission line from a switching connection point. (See paragraph [0025] of Mruz). Once the number of output ports is known, the appropriate number of impedance matching reeds may be activated. For example, as illustrated in Fig. 3, impedance matching reed 38 is activated when two output ports are connected; impedance matching reed 39 is only activated when three ports are connected; and impedance matching reed 37 is only activated when four output ports are connected. (See

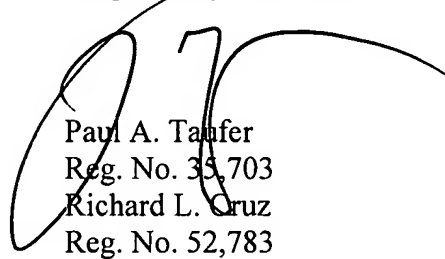
also paragraph [0027] of Mruz).

Accordingly, for at least those reasons discussed above, the Applicants respectfully submit that Claim 1, and Claims 2, 3, 5-13, and 15-21 which recite similar subject matter, are fully patentable over Mruz, and respectfully request reconsideration and withdraw of this grounds of rejection.

Conclusion

In view of the foregoing, the Applicants submit that the present application, including Claims 1-23, are now in condition for allowance, which notice is earnestly solicited.

Respectfully submitted,



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